

TOP SECRET



PIR

PHOTOGRAPHIC INTELLIGENCE REPORT

**NUCLEAR SUBMARINE SPECIAL SUPPORT FACILITIES**

**PETROVKA AND SEVERODVINSK, USSR**

DECLASS REVIEW by NIMA/DOD

I M  
A  
S TA

CIA/PIR 75118

DATE June 1967

COPY

PAGES 21

TOP SECRET

25X1

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

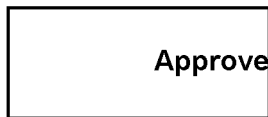


25X1

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

25X1



TOP SECRET  
Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2



25X1

25X1



8 August 1967

25X1

25X1

IMAGERY ANALYSIS SERVICE

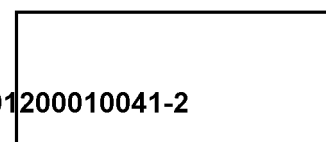
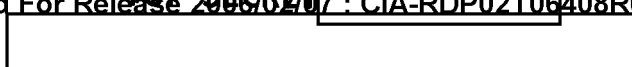
ERRATUM FOR CIA/PIR 75118,



1. Page 4, paragraph 1, line 5 change latitude to read  
64-35N rather than 64-45N.

25X1

TOP SECRET  
Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2



25X1

25X1

25X1  
25X1

TOP SECRET [REDACTED]  
[REDACTED]

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

[REDACTED]  
CIA/PTR -75118

25X1

NUCLEAR SUBMARINE SPECIAL SUPPORT FACILITIES  
PETROVKA AND SEVERODVINSK, USSR

TOP SECRET [REDACTED]  
[REDACTED]

25X1  
25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

## CONTENTS

	Page
Summary . . . . .	3
Introduction . . . . .	4
Measurements . . . . .	4
Petrovka Facility . . . . .	6
Pipelines . . . . .	10
Severodvinsk Facility . . . . .	14
Pipelines . . . . .	16
Comparative Assessment . . . . .	17
References . . . . .	20

## Tables

Table I. Nuclear Submarines at the Severodvinsk Facility . . . . .	17
--	----

## Illustrations

Figure 1. Location Map . . . . .	3	Figure 9. Liquid Radioactive Waste Storage Tanks Under Construction (photographs) . . . . .	10
Figure 2. Petrovka Shipyard, (photograph) . . . . .	4	Figure 10. Petrovka Nuclear Submarine Special Support Facility, (photograph) . . . . .	11
Figure 3. Severodvinsk Shipyard, (photograph) . . . . .	5	Figure 11. Petrovka Nuclear Submarine Special Support Facility, (photograph) . . . . .	12
Figure 4. Petrovka Nuclear Submarine Special Support Facility, (photograph) . . . . .	6	Figure 12. Petrovka Nuclear Submarine Special Support Facility, (drawing) . . . . .	13
Figure 5. Petrovka Nuclear Submarine Special Support Facility, (photograph) . . . . .	7	Figure 13. Graving Yard No. 3 Portsmouth Naval Shipyard, Portsmouth, N.H., (photograph) . . . . .	14
Figure 6. Soviet Drawing of a Liquid Radioactive Waste Decontamination and Storage Installation (drawing) . . . . .	8	Figure 14. Severodvinsk Nuclear Submarine Special Support Facility, (photograph) . . . . .	15
Figure 7. Probable Process Building No. 1 (photographs and drawing) . . . . .	8	Figure 15. Severodvinsk Nuclear Submarine Special Support Facility, (photograph) . . . . .	18
Figure 8. Probable Process Building No. 2 (photograph and drawing) . . . . .	9	Figure 16. Severodvinsk Nuclear Submarine Special Support Facility, (drawing) . . . . .	19

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

25X1

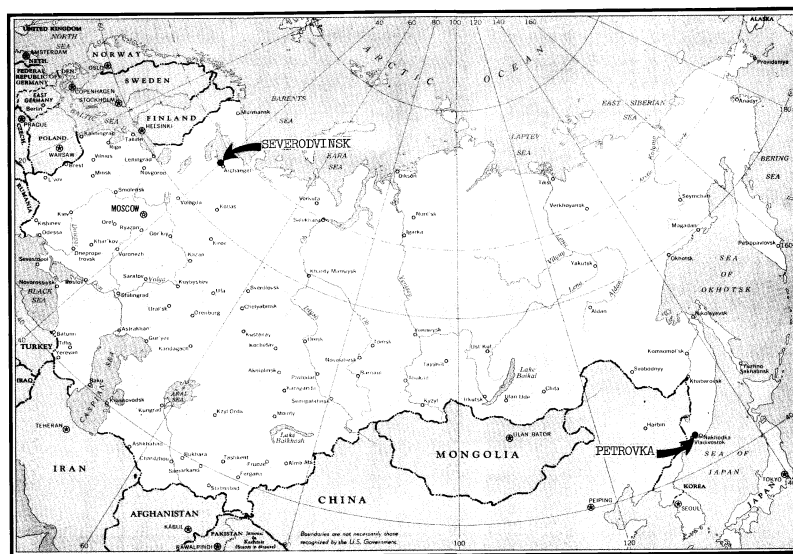


FIGURE I. LOCATION MAP

## SUMMARY

Based on available open source, [redacted] and photographic information, it has been determined that the installations at Petrovka and Severodvinsk are designed to provide specialized maintenance and support for Soviet nuclear submarines.

Each facility consists essentially of two areas. One area including a large operations and shop building and quay is primarily for reactor refueling and related maintenance. The other area consists of several smaller structures, including eight large tanks, and is designed for the processing, handling, and holding of radioactive wastes prior to final disposal. The use of such land-based facilities for these operations represents a significant departure from past Soviet and U.S. practices.

TOP SECRET

25X1

25X1

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2



25X1

25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

25X1

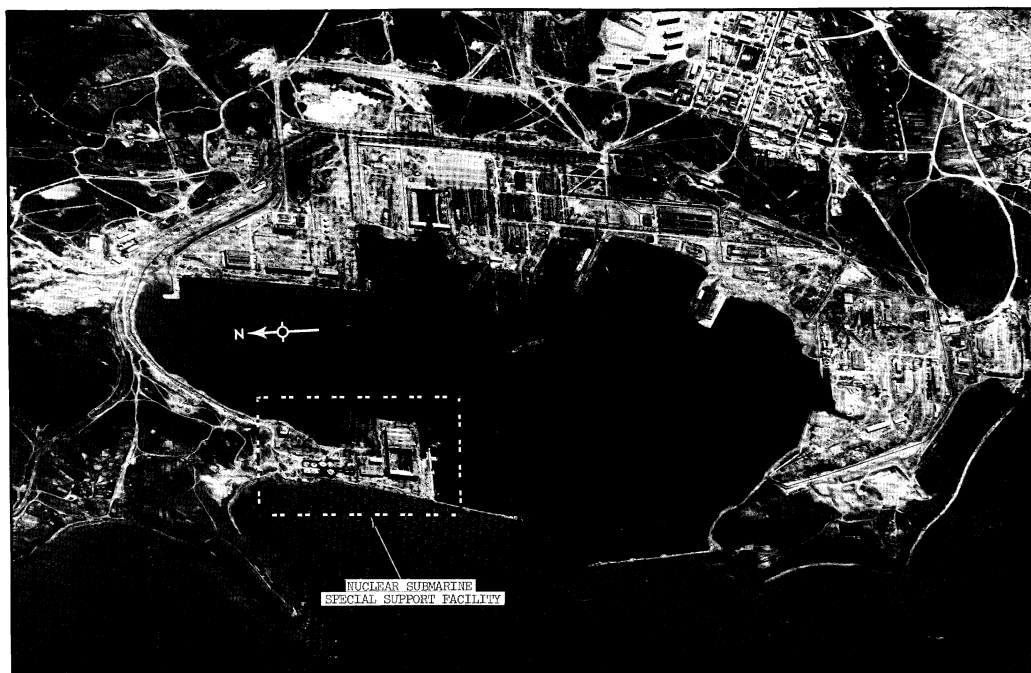


FIGURE 2. PETROVKA SHIPYARD -

25X1

## INTRODUCTION

Two facilities for servicing, refueling, and maintenance of nuclear powered submarines have been identified in the Soviet Union. One is at Petrovka, near Vladivostok, and one is at Severodvinsk, on the White Sea. The Petrovka facility (43-07N 132-20E) is located on the northern tip of land forming the entrance to the Petrovka Shipyard (Figures 1 and 2). The Severodvinsk facility (64-45N 39-50E) is located near the tip of Yagry Island directly across the Nikolskoye Estuary from the Severodvinsk Shipyard (Figures 1 and 3). Thus, the Petrovka facility can readily provide support for the Pacific Fleet, while the one at Severodvinsk supports the Northern Fleet.

This report presents the results of an effort to determine the specific functions of these installations. In the United States, no such elaborate shore facilities are found associated with nuclear submarine maintenance and refueling operations. Special emphasis has been placed on the structures associated with processing and storage of radioactive wastes. Comparisons have been made with

known Soviet radioactive waste disposal facilities, conventional Soviet naval shipyard construction practices, and related U.S. installations and procedures.

Due to the good quality photography of the facility under construction at Petrovka, the structures there will be used as the primary basis for comparison. This approach is possible because the facilities at Petrovka and Severodvinsk are essentially the same.

## Measurements

All measurements have been made by the NPIC Technical Intelligence Division with the exception of those shown with an asterisk (\*) which were made by the CIA/LAS imagery analyst. The NPIC/TID measurements are considered to be accurate within  $\pm 2$  feet for 1-5 foot dimensions; for linear dimensions over 5 feet,  $\pm 5$  feet or  $\frac{3}{8}$ , whichever is greater, and  $\pm 5$  feet for heights.

TOP SECRET

25X1

25X1

25X1  
25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

25X1

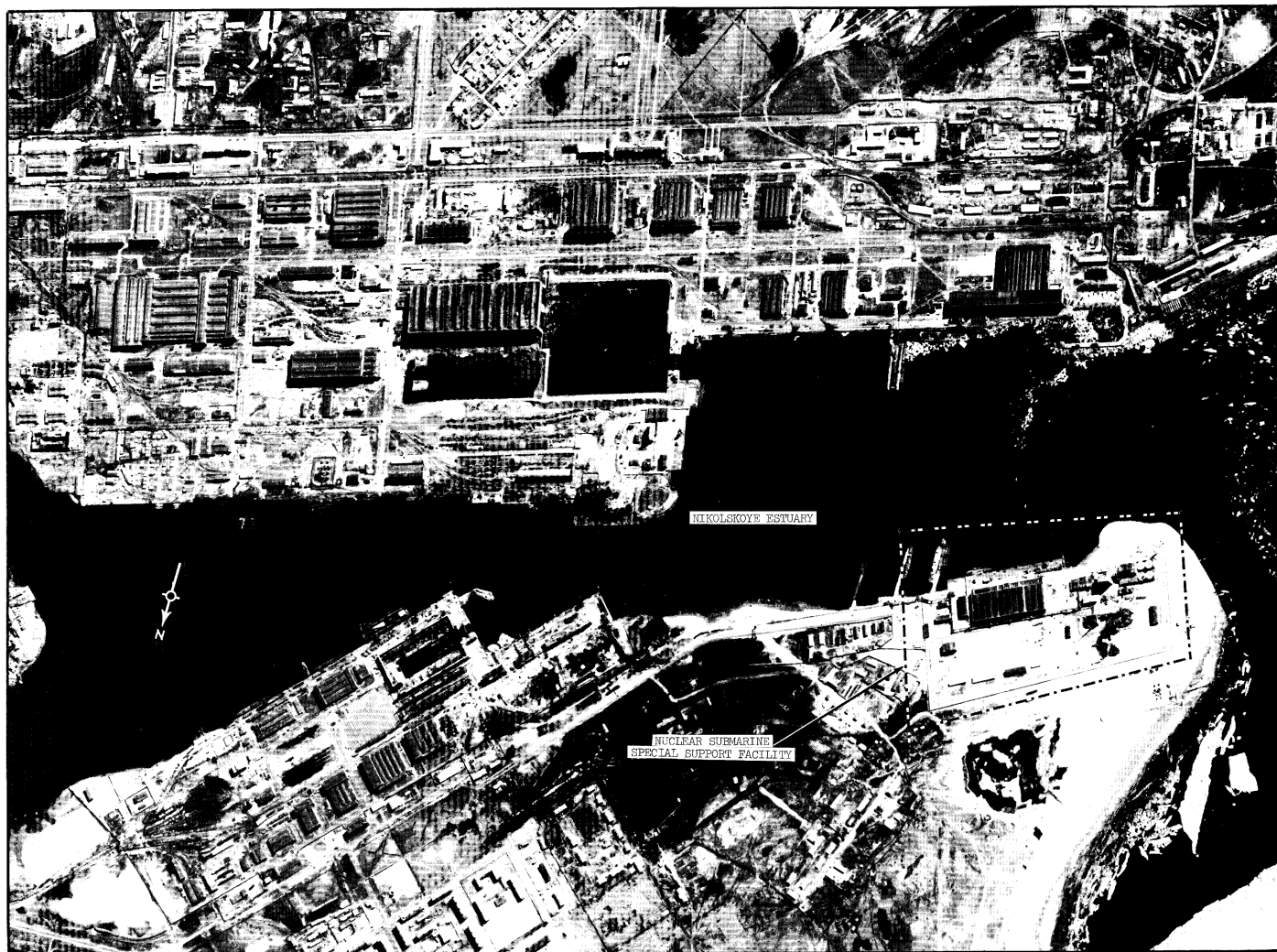


FIGURE 3. SEVERODVINSK SHIPYARD -

TOP SECRET

25X1

25X1

25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

#### PETROVKA FACILITY

Construction activity began at Petrovka, as it did at Severodvinsk, in 1962. At Petrovka the Soviets did not have land available at that time, and approximately one year was spent filling an area near the mouth of the harbor. Presently, the construction status at Petrovka appears to be nearly two years behind that at Severodvinsk where land was already available.

The photography from [ ] provided the first detailed coverage of the Petrovka site (Figure 4). Most of the structures were still in the early stages of construction. Only three structures appeared to be complete. Foundations for a large building and some of its internal structure could be seen on the southern end of the land-fill area. To the north, four other structures could be seen in various stages of construction on the western half of the filled area. Four of the buildings under construction appeared to have generally rectangular internal components while the most northern one consisted of four large circular objects arranged in a rectangular pattern between two walls.

Photography of [ ] showed significant construction progress (Figure 5). A long, narrow section along the south side of the large building foundations appeared to be nearing completion. Its overall appearance is characteristic of office and/or administration buildings. The roof is essentially flat, and several rows of windows were visible along the entire southern wall.

Immediately to the east was a new partially completed structure, rectangular in shape, and divided into two sections. The small northern section appeared to be subdivided into compartments. The larger southern section was not subdivided but appeared to contain at least eight horizontal cylindrical objects approximately 20 feet long, arranged side by side, and oriented perpendicular to the long axis of the building.

The construction on the west side of the site had advanced to a stage permitting several comparisons to be made. For convenience, an arbitrary numbering system will be used in discussing and analyzing the various buildings and their probable functions.

As a group, Buildings 1 through 4 (Figure 5) were probably designed for processing and storage of radioactive wastes. Figure 6 is a Soviet drawing of an installation designed for processing and storage of radioactive wastes. 1/ The drawing portrays an installation containing six cylindrical tanks each [ ] and a section that has several compartments including two cylindrical structures that are [ ]

Building 1 resembles the compartmentalized section of the Soviet installation described above (Figures 6 and 7). The building is thick walled, and consists of six sections. Four of the sections appear to be hot cells. They are thick walled and constructed as buildings within a building, a feature characteristic of facilities that handle radioactive materials. Half of the center section is constructed to form two vertical, circular tank-like cells [ ] which is approximately twice the size of the cylindrical structures in the Soviet drawing. Apparently constructed of concrete, the section would provide effective shielding for radioactive materials introduced into the cells. Such a building could possibly serve as a decontamination and purifying area for the resin beds common to nuclear submarines. Photography of the same building at Severodvinsk shows that a road leads from the quay to the high bay section of the building. It appears that materials could enter the building at this point and be easily moved to the shielded cells. There is a passageway within Building 1 leading from the road to the cells. The remainder of the center section is divided into at least two rooms and possibly serves as the control area for this probable waste process building.

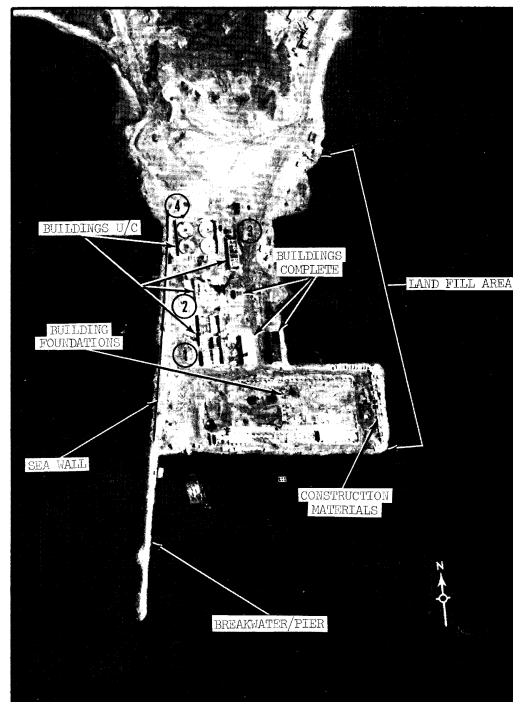


FIGURE 4. PETROVKA NUCLEAR SUBMARINE SPECIAL SUPPORT FACILITY - [ ]

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118



FIGURE 5. PETROVKA NUCLEAR SUBMARINE  
SPECIAL SUPPORT FACILITY

Building 2, also considered to be a probable waste process building, is not as heavily constructed as Building 1. Internally, it is divided into several rooms or sections. Although the photography was of good quality, the complexity of the building made it difficult to determine its exact internal structures. The line drawing in Figure 8 portrays the most probable internal design based on all the available photography. At least five cylindrical tank-like structures were visible. Shadows and construction materials precluded identification of additional or similar structures in the adjacent areas.

Building 3 was nearing completion prior to the availability of any good quality photography, thus making it impossible to determine its internal characteristics; however, its upper portions appear highly dissected. The building apparently is heavily constructed, and the side walls project past the end at each corner (Figures 4 and 5). Building 3 has been identified as a probable waste process building.

Building 4 had been enlarged since the photographic coverage of [redacted] On photography of [redacted] eight large circular structures are visible, and the building is divided into two equal sections, each containing four of the circular structures. Both the center dividing wall and the northern wall were incomplete, leaving the building open and accessible for further internal construction.

The eight circular structures appeared to be pedestal-like bases for tanks similar to those shown in Figure 6. At Petrovka, the bases are built above ground at decreasing heights, with the highest bases located near Building 2. The bases are [redacted] in diameter, which is approximately twice the diameter of the tanks in the plan drawing. This is the same dimension ratio as that of the cylindrical cells in Building 1.

Subsequent photography shows that the tanks built on these bases are identical to those built at Severodvinsk and are very similar to the liquid radioactive waste storage tanks at the Dodonovo Atomic Energy Complex, USSR (56-16N 93-33E). The underground tanks at Dodonovo are 120 feet in diameter compared to a diameter of [redacted] at Petrovka and Severodvinsk, but their design and construction appears to be much the same. The tanks consist of a steel lining with a thick concrete outer covering, and a large center core which probably serves as a support for the heavy concrete cover (Figure 9). When the buildings are completed and covered at the shipyards, the end view will be essentially the same as that shown in the Soviet plan drawing.

One difference is that the drawing shows the tanks built mostly below ground level. Due to the physical location of the facilities at Petrovka and Severodvinsk, the water table is most likely too high to allow tanks of that type to be placed underground. This may also explain the need for the pedestal-type bases and the enclosing concrete-walled structure.

In [redacted] Building 1 appeared to be complete (Figure 10). Building 2 was still under construction, and a partially completed overhead conduit connected Building 2 with Building 4. Four of the large tanks in Building 4 appeared to be nearly complete. The remaining four are still in the early stages of construction with little evidence of progress since [redacted]

Building 6, one of the first buildings at the site, was complete in [redacted] and probably serves as an office/support building.

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

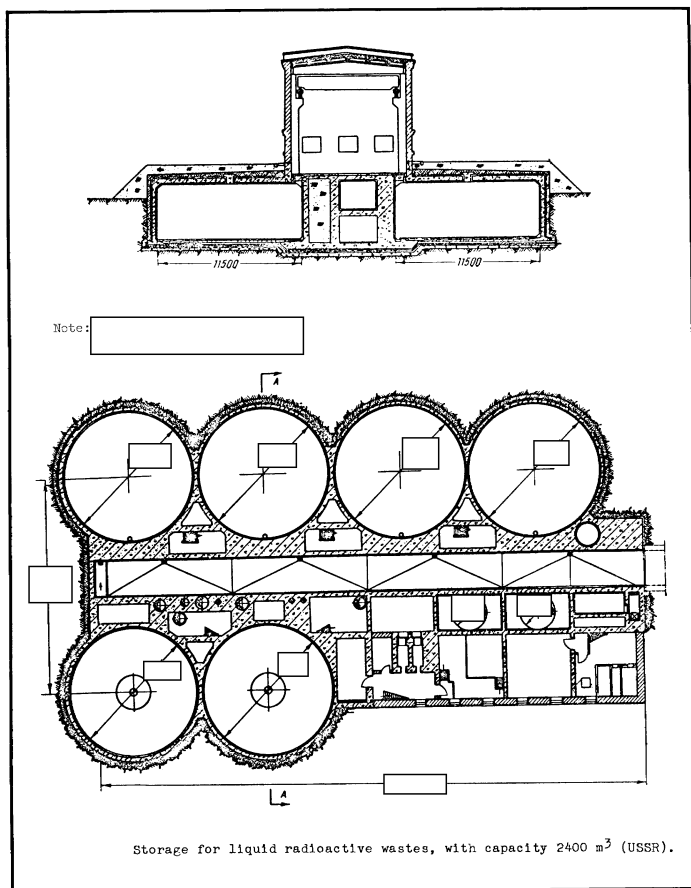


FIGURE 6. SOVIET DRAWING OF A LIQUID RADIOACTIVE WASTE DECONTAMINATION AND STORAGE INSTALLATION

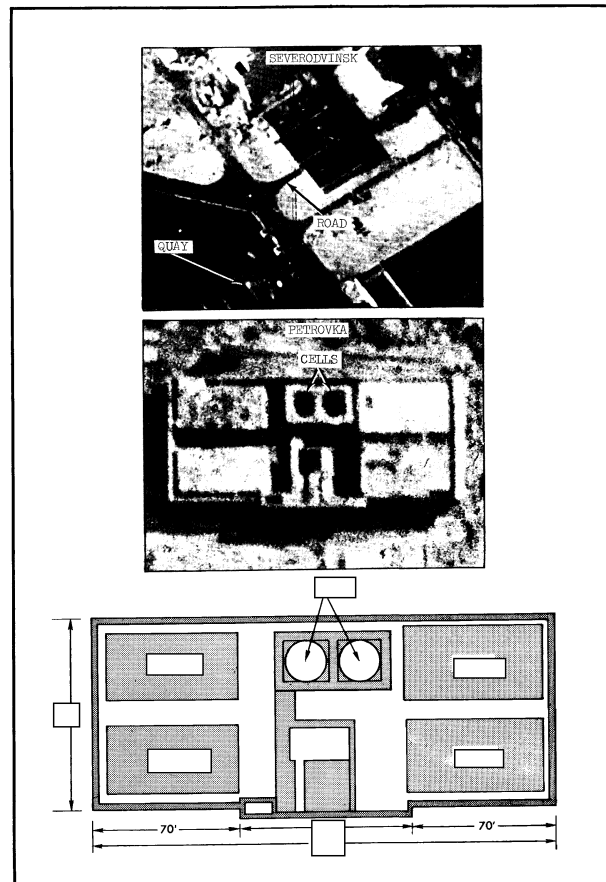


FIGURE 7. PROBABLE PROCESS BUILDING NO. 1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

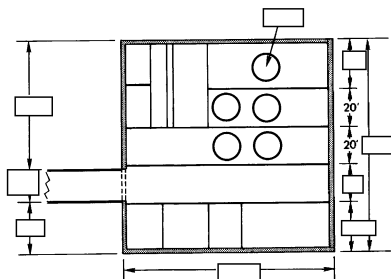


FIGURE 8. PROBABLE PROCESS BUILDING NO. 2

Walls were erected and a roof was partially complete on Building 7 in [redacted] where only the foundations had been visible in [redacted]. The northern section of Building 7 appears to be a large shop area. The roof supports are spaced approximately 40 feet apart, and no significant partitions or internal walls are visible. Building 7 is considered to be a combination operations and shop building. The southern or operational section that faces the quay will probably serve as office space for the various supervisory and engineering personnel concerned with the activities at the quay. The shop section will probably serve as the working area for the specialized maintenance and support provided there for nuclear submarines. For example, during construction of nuclear submarines, great emphasis is placed on the reliability and integrity of the various reactor and auxiliary components. Peculiar to the water-cooled, water-moderated reactors used in marine construction is the necessity to have special-strength materials in the primary loop that can withstand the inherent high coolant temperature and pressure parameters. All these lines must be assembled in an absolutely clean condition. Auxiliary pumps, filters, and fittings must be steam tested prior to their installation. 2/

Similar operations would be necessary in conjunction with refueling operations. Various reactor and supplementary mechanisms would probably have to be repaired, cleaned and then tested in preparation for start-up and dock-side tests. The shop areas at both Petrovka and Severodvinsk have sufficient space and are constructed in a manner that would be very compatible with this type of operation.

The building to the east (Building 8) is complete and possibly serves a steam pressure-reducing and cooling function. Facilities for servicing nuclear submarines are known to have such activities. 2/ At Severodvinsk, and probably at Petrovka, these buildings which contain horizontal, tank-like objects are served by steamlines.

Building 9 was one of the first structures completed, and is located approximately 70 feet to the east of Building 6. It probably served as a small shop and storage building during construction of the facility. It is likely that it will continue to serve as a support or storage building for the site.

A probable pumphouse (Building 10) has been constructed on the east side of the site. Figures 11 and 12 show pipelines leading from the building to a water intake in the harbor.

Three other buildings are now complete at the northern end of the site. Building 11 remains unidentified. Building 12 is considered to be a probable administration building. It is identical to a building at the Severodvinsk facility and very similar to several other buildings that appear to serve an administrative function in other areas of both shipyards. Building 13 is rather small by comparison and probably serves as a valvehouse for the steamline which connects the facility with the main shipyard.

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

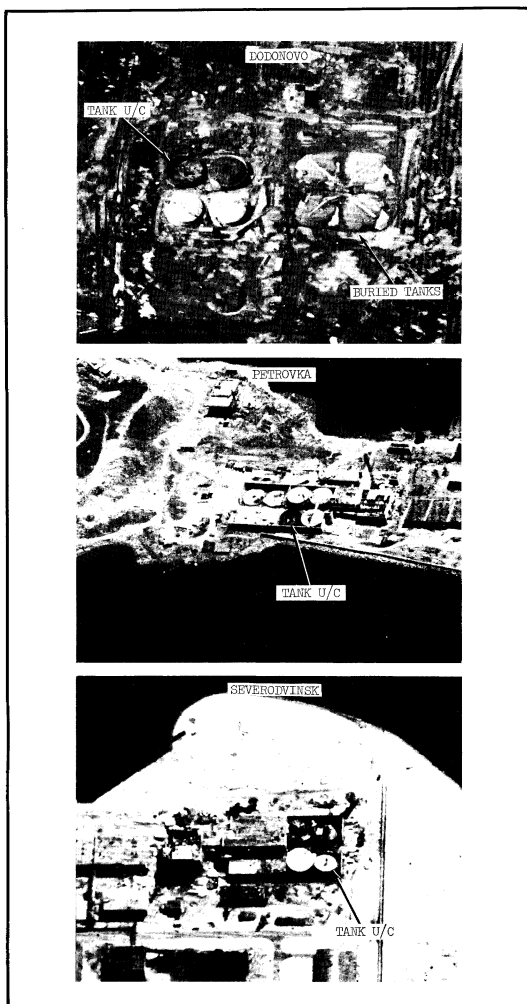


FIGURE 9. LIQUID RADIOACTIVE WASTE STORAGE TANKS UNDER CONSTRUCTION

### Pipelines

The various pipe and steamlines are shown in Figure 12. Building 1 is served by a probable pipeline that enters on the east side. Another underground pipeline appears to run from the west side of the high-bay section and enters Building 2 near the southeast corner.

Besides the pipeline from Building 1, Building 2 is served by a probable pipeline that enters on the west side near the southwest corner. This pipeline leads south for approximately 50 feet and then turns east. It appears possible that this pipeline leads to the pipeline that runs west from the probable pumphouse. It is also possible that one or more pipelines connect Building 2 with Building 4 through the overhead conduit.

One probable pipeline leads toward the east side of Building 4, but no connection could be seen. Also, the four pipelines that run north from Building 7 and the quay possibly connect with Building 4, but no definite connection could be established. Two pipelines appear to go under the road between Buildings 6 and 9 and possibly connect the two. Building 7 is served by one overhead steamline that enters on the north side near the northwest corner. It is also possibly served by the four pipelines that run along its south and west sides.

At present, no pipelines can be seen entering Building 8, but it will probably be served by at least one of the steamlines under construction that run eastward parallel to the north side of Building 7.

In addition to the two probable pipelines between Buildings 6 and 9, a probable pipeline leads between Building 9 and the probable pumphouse.

Several pipelines appear to lead away from the probable pumphouse. One leads to the north, two to the west, and one to the south. On the east side, 5 pipelines lead to the water intake.

Building 11 is served by a steamline that enters on the south side near the southwest corner. A probable pipeline leads from Building 13, past Buildings 11 and 12, but no connection with the two buildings could be seen. Various other probable pipelines could be seen, but their connecting or end points could not be determined.

Generally the facility has an abundance of interconnecting pipes and steamlines. Of specific importance is the fact that the four pipelines near the south and west side of Building 7 could easily be connected with any one or all of Buildings 1, 2 or 4.

TOP SECRET

25X1

TOP SECRET

CIA/PIR -75118

25X1

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

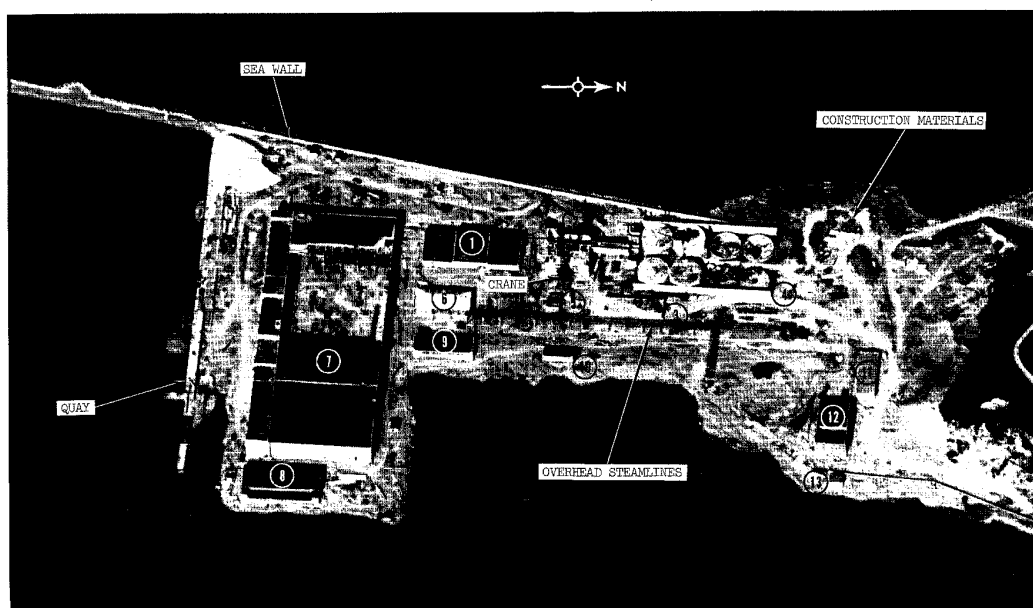


FIGURE 10. PETROVKA NUCLEAR SUBMARINE SPECIAL SUPPORT FACILITY -

25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

25X1  
25X1



25X1  
25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

25X1

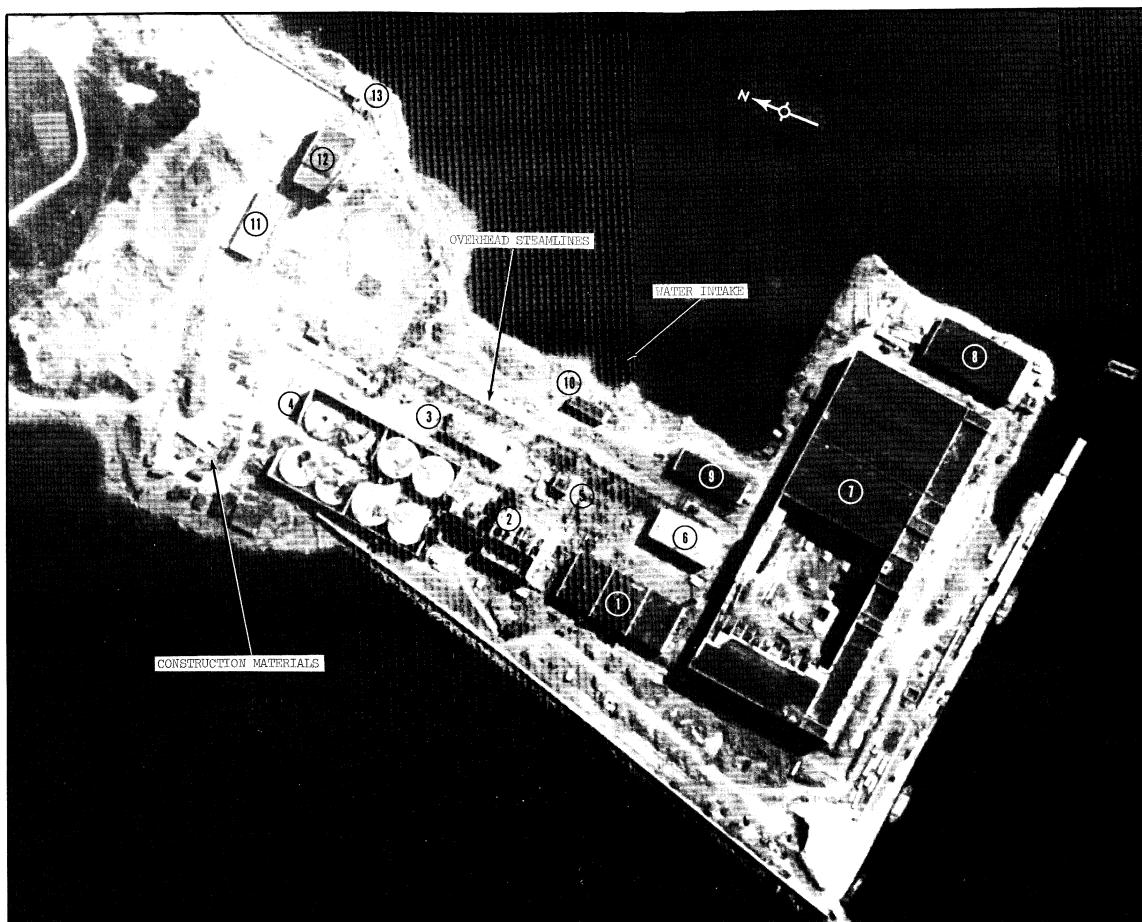


FIGURE 11. PETROVKA NUCLEAR SUBMARINE SPECIAL SUPPORT FACILITY

25X1

TOP SECRET

25X1  
25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PTR -75118

ITEM	DESCRIPTION	DIMENSIONS (FEET)
1	Probable Process Building High Bay Section	
2	Probable Process Building	
3	Probable Process Building	
4	Radioactive Waste Storage/Handling Building	
5	Unidentified Structure	
6	Probable Office/Support Building	
7	Operations and Shop Building	
8	Possible Steam Pressure-Reducing and Cooling Building	
9	Support Building	
10	Probable Pumphouse	
11	Unidentified Building	
12	Probable Administration Building High Bay Section	
13	Probable Valve House	

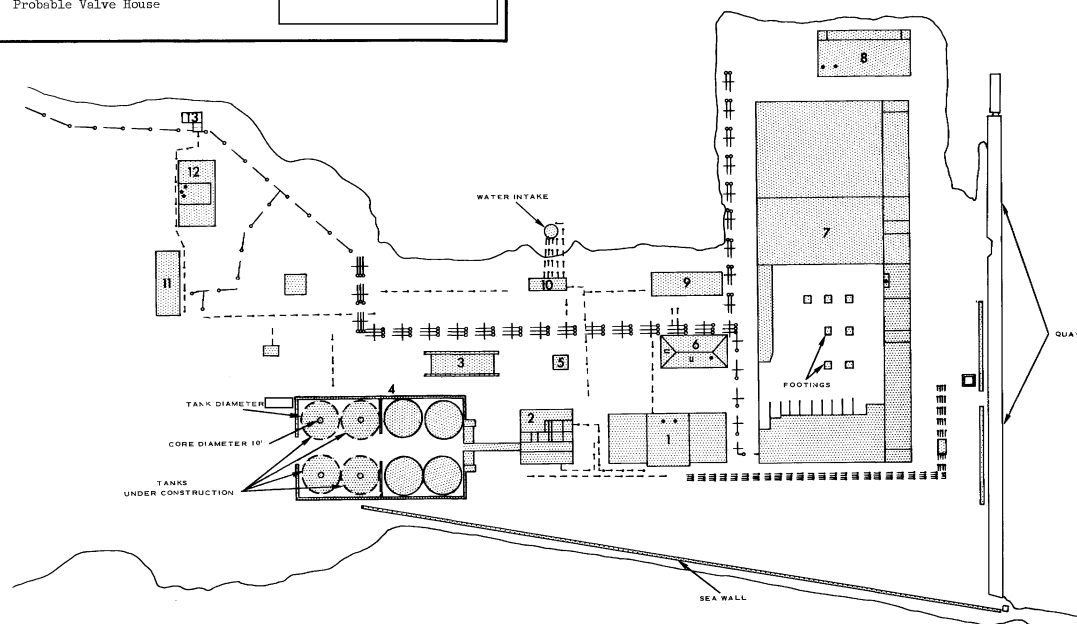
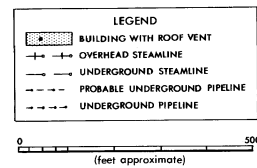


FIGURE 12. PETROVKA NUCLEAR SUBMARINE SPECIAL SUPPORT FACILITY

TOP SECRET

25X1  
25X1

TOP SECRET [REDACTED]

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

[REDACTED]  
CIA/PIR -75118

25X1

#### SEVERODVINSK FACILITY

The facility at Severodvinsk has been at least partially operational since [REDACTED] when a possible "N" Class submarine was identified next to the quay. At that time, the operations and shop building was not complete, but considerable activity was visible on the western end of the quay.

Figures 14 and 15 show the Severodvinsk facility in the late stages of construction. Nearly all the buildings were complete in 1965 with the exceptions of Building 2 and the building enclosing the eight tanks (Building 4). Four of the tanks are covered by a roof and high-bay section which equates to the Soviet line drawing (Figure 6).

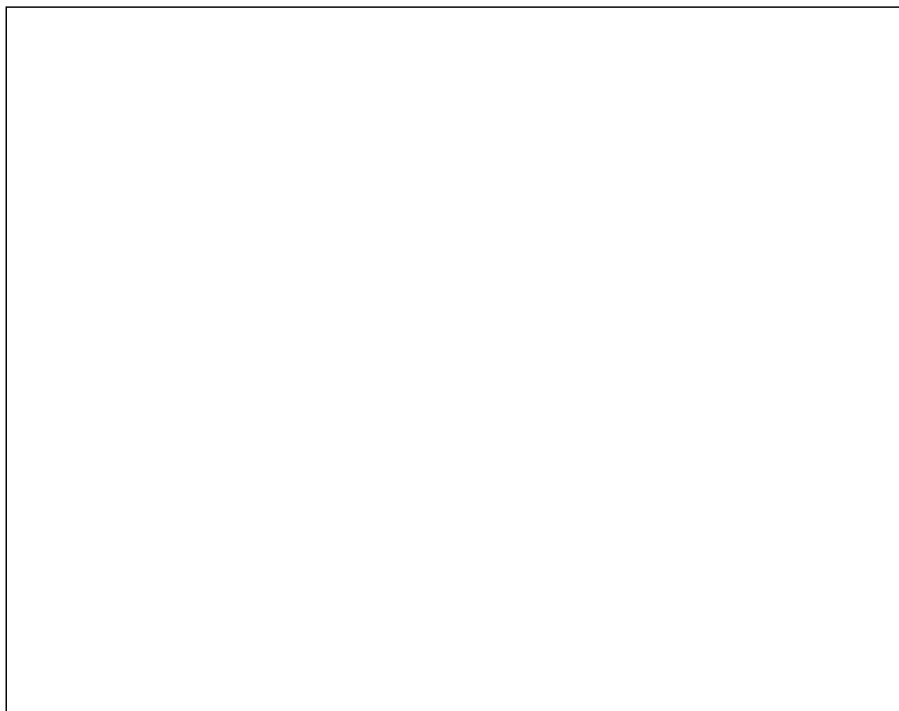
Most of the buildings are essentially the same as those at Petrovka with the exception of the steam plant and four buildings located near the northeast corner. This steam plant is apparently the main source of steam for the site, but it is also connected with a steam plant across the estuary.

Various support vessels have been seen associated with the nuclear submarines.

These include probable radcon/decon barges and ZEYA and "PM-124" Class ships. It has been determined that these vessels operate as radiation control, decontamination, and waste disposal units during refueling of the submarine nuclear power plants. <sup>3/</sup> This operation appears similar to that used in refueling US nuclear submarines. Decontamination procedures as carried out by the US Navy employ a specially constructed and highly shielded barge to demineralize and filter liquid radioactive waste materials. <sup>4/</sup> (see Figure 13)

The Soviet vessels are probably performing a like function, with this possibly being an interim measure until completion of the Petrovka and Severodvinsk Facilities. On Figure 14, several vessels are visible along the quay including both an "N" and a possible "H" Class submarine. A shed-like structure can be seen over the probable reactor compartment of the nuclear submarine similar to those placed over the reactor compartment of US nuclear submarines during refueling operations. A probable pipeline leads from the shed-like structure to an object in the center of the radcon/decon barge inboard of the submarine. Such an arrangement could easily be used to transfer radioactive liquids from the submarine to the barge. Immediately outboard there are two small unidentified barges and further outboard, a "PM-124" Class ship. There is a probable radcon/decon barge and a possible "H" Class submarine at Berth 2, and a ZEYA Class ship moored at Berth 1.

25X1



TOP SECRET [REDACTED]

25X1

25X1

25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

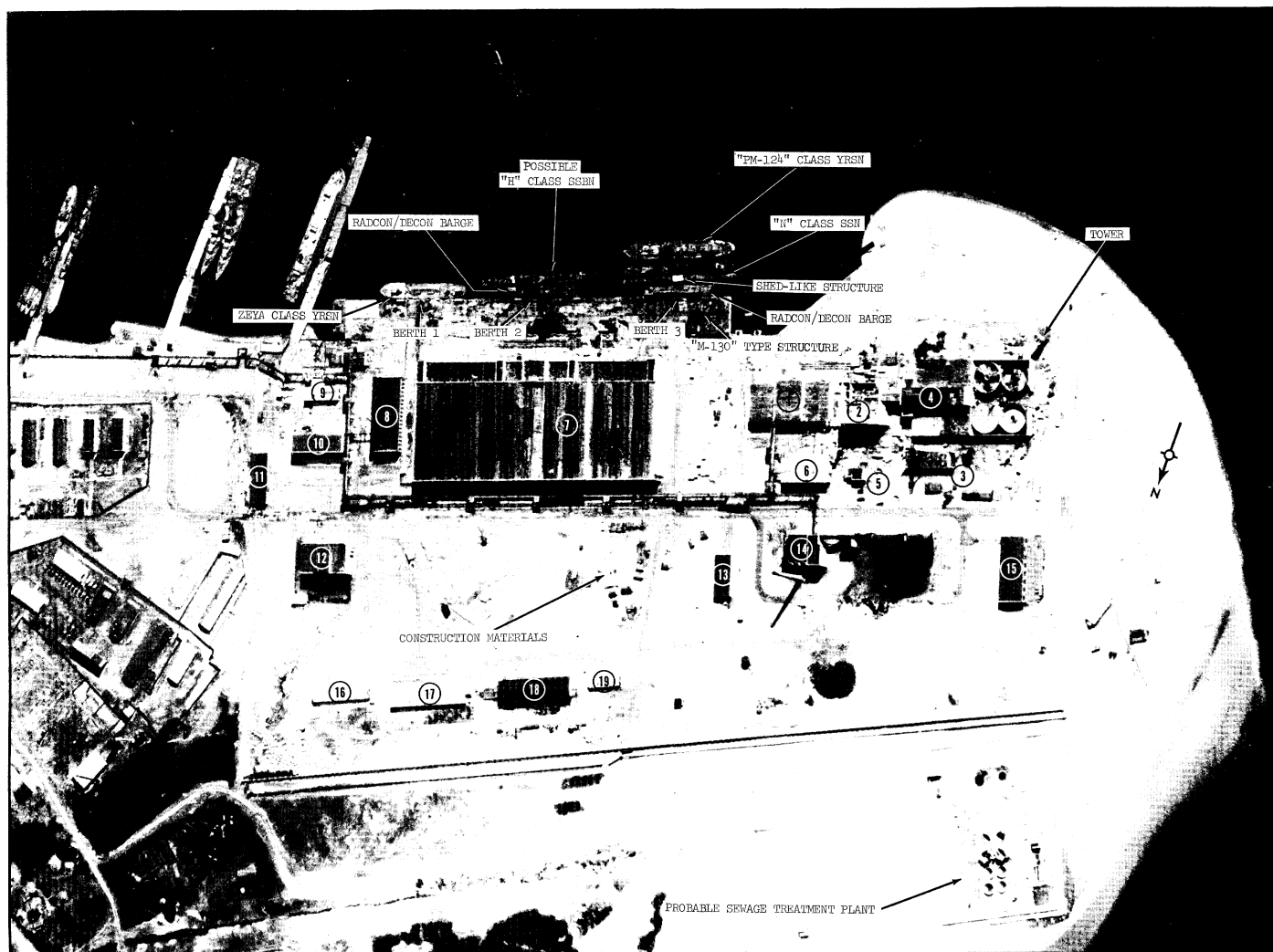


FIGURE 14. SEVERODVINSK NUCLEAR SUBMARINE SPECIAL SUPPORT FACILITY -

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

Table 1 provides a listing by mission of the submarines visible at the respective berthing places. Various associated support vessels were usually present also, but they are not included in the table.

### Pipelines

Figure 16 portrays the arrangement of the various pipe and steamlines visible on the available coverage. Four underground pipelines run generally east-west, parallel to the south side of Building 1. They could continue to the west and connect with Building 4 but this connection could not be definitely established. Three pipelines appear to connect Building 1 with the four previously mentioned at a point south and west of the center of the high-bay section. One pipeline joins Building 1 with Building 2 (as at Petrovka) and another pipeline leads from Building 1 to Building 6. In addition, Building 6 is also served by an overhead

steamline that enters near the center of the east end. An overhead steamline leads from the steam plant and enters Building 1 on the north side just east of the high-bay section. A parallel steamline turns to the west, then runs parallel to Building 1 and appears to enter Building 2 at the northeast corner. A probable pipeline leads from the southeast corner of Building 2 and appears to connect with a possible extension of the four pipelines that run parallel to Building 1. From there, it leads west for approximately 150 feet, turns north, and probably enters Building 4 near the center of the east end. A pipeline leads north for approximately 20 feet from a point near the west end of Building 4 to the road. No further continuation or connection with any building or another pipeline could be determined.

A pipeline leads from the southeast corner of Building 15 and appears to terminate near the northwest corner of Building 5, but its exact terminal point could not be determined.

TABLE 1. NUCLEAR SUBMARINES AT THE SEVERODVINSK FACILITY

BERTHING SPACES		
1	2	3
*	*	Unidentified vessel
*	*	Unidentified possible submarine
*	*	Possible "N" Class submarine
*	*	*
*	*	Possible submarine
*	Unidentified vessel	Possible submarine
*	Possible "H" Class submarine	Probable "N" Class submarine
*	U/I Object in same place as possible "H" Class noted on	Possible submarine
*	Unidentified submarine	Possible submarine
*	Possible submarine	Possible "N" Class submarine
*	Possible "H" Class submarine	"N" Class submarine
*	Unidentified imagery	Unidentified submarine
*	Possible "H" Class submarine	*
*	Possible "H" Class submarine	*
*	*	*
*	*	Unidentified submarine
*	*	Unidentified vessel
*	*	Unidentified submarine
*	*	Possible "N" Class submarine
*	*	*
*	Unidentified imagery	Possible "H" Class submarine
*	Possible submarine	Possible "H" Class submarine
*	*	"H" Class submarine
	"N" Class "H" Class submarine submarine	"N" Class submarine

\*No Submarine Present

NOTE: Information compiled from references 5-15

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

The operations and shop building is served by two steamlines. One enters on the north side near the northwest corner, and the other enters on the same side near the northeast corner. Building 7 is probably served by at least one of the various underground pipelines, but no positive identification of this could be made. Building 8 is served by an overhead steamline that enters on the east side. A pipeline leads north from the northeast corner, turns west, and runs parallel to Building 7 for approximately 700 feet. No connection or continuation beyond that point could be seen. Two probable pipelines connect with Building 13. One appears to connect at the southeast corner, and the other connects near the northwest corner. Again, their exact terminal points could not be determined. Three of the four probable storage buildings (17-19) are connected by probable pipelines that lead east and west from the ends of the buildings.

#### COMPARATIVE ASSESSMENT

Generally, the two facilities appear to be the same with respect to building size, appearance, and function. Differences which have been noted are probably due mainly to the space available at the time of construction and also the amount of steam available from the respective shipyards.

It is believed that the facilities at Petrovka and Severodvinsk provide a land-based waste processing, dilution, and holding system. To quote a Soviet publication: "In order not to contaminate the surrounding environment with radioactive wastes which are formed during operation of the ships, the shore bases are equipped with facilities for the storage of solid wastes and special installations for the purification of the radioactive wastes (coagulation, ion exchange, and evaporation). The waste waters which usually contain only slight amounts of radioactive materials (water from the decontamination showers, clothing laundry, decontamination water from the central compartment, etc.) are gathered in special tanks. The waste waters are held in these tanks for a definite time during which decay of the radioactive materials takes place. The waters are unloaded from the special tanks into an auxiliary ship". <sup>2/</sup> They are then probably dispersed at sea.

Electrical power to both facilities appears to be the same and of the type considered common to shipyard operations.

The Severodvinsk facility is rather well secured with a perimeter wall and fencing (see Figure 16). The site at Petrovka has a natural water barrier on three sides and lends itself to being easily secured in a similar manner once the facility becomes operational.

A comparison of the probable waste process buildings at Petrovka and Severodvinsk with radioactive waste process buildings at known Soviet nuclear energy installations revealed little in the way of external similarities. However, the thick-walled, concrete type of construction used for the probable process buildings is characteristic of buildings associated with radioactive materials handling. Also, the eight steel-lined, concrete tanks common to both facilities are of the type usually associated with liquid radioactive waste storage.

It was determined that the Petrovka and Severodvinsk facilities were not similar to any of the Soviet facilities engaged in spent fuel element recovery processes such as chemical separation, and that an operation of that type would probably not be accomplished at either Petrovka or Severodvinsk.

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

25X1  
25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

25X1



FIGURE 15. SEVERODVINSK NUCLEAR SUBMARINE SPECIAL SUPPORT FACILITY -

25X1

TOP SECRET

25X1  
25X1

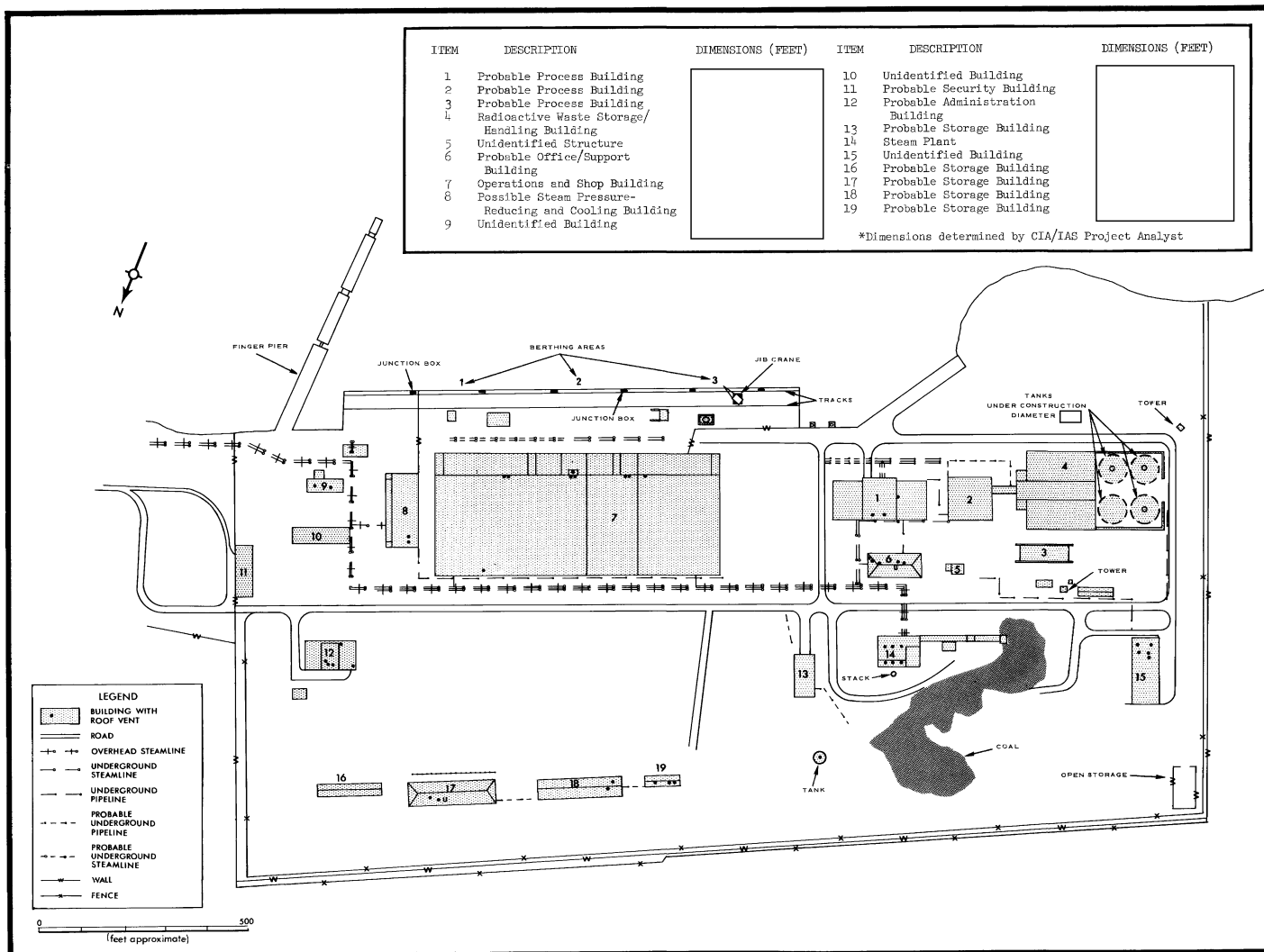
25X1  
25X1

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR -75118

25X1



25X1

25X1

FIGURE 16. SEVERODVINSK NUCLEAR SUBMARINE SPECIAL SUPPORT FACILITY -

TOP SECRET

25X1

25X1

25X1



25X1

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

CIA/PIR-75118

DOCUMENTS

1. AEC. Tr-5640 Translation Series, Stroitel'stvo Yadernykh Ustanovok (Construction of Nuclear Installations) by A. N. Komarovskii; State Publishing House of Power Literature, Moscow, Leningrad, 1961 (UNCLASSIFIED)
2. JPRS. 28,696 TR: 65-30288 The Installation and Testing of Marine Nuclear Plants, USSR 5 February 1965; Translation of Chapter IV of Slesari Montazhnik Sudovykh Parovykh Kotlov i Teploobmennykh Apparato (Fitter - Installer of Marine Steam Boilers and Heat Exchanger Equipment) by L. P. Zuyev and Ye. N. Malakhov, Leningrad, 1964, pp 83-91. (UNCLASSIFIED)
3. DIA. SAO/AP-1-230-1-8-66, Special Afloat Support Units for Soviet Nuclear Powered Submarines, May 1966, (TOP SECRET)
4. CIA. PIR-5005/65, Probable Nuclear Submarine Special Support Facilities Petrovka and Severodvinsk, USSR, May 1965, (TOP SECRET)
5. CIA. PIR-67315, Naval Base and Shipyard 402 Severodvinsk, USSR (TOP SECRET) December 1966,
6. CIA. PIR-67164, Severodvinsk Naval Base and Shipyard 402, Severodvinsk, USSR (TOP SECRET) January 1966, (TOP SECRET)
7. CIA. PIR-67165, Severodvinsk Naval Base and Shipyard 402, Severodvinsk, USSR (TOP SECRET) January 1966, (TOP SECRET)
8. CIA. PIR-67166, Severodvinsk Naval Base and Shipyard 402, Severodvinsk, USSR (TOP SECRET) January 1966, (TOP SECRET)
9. CIA. PIR-67167, Severodvinsk Naval Base and Shipyard 402, Severodvinsk, USSR (TOP SECRET) January 1966, (TOP SECRET)
10. CIA. PIR-67311, Naval Base and Shipyard 402 Severodvinsk, USSR Mission (TOP SECRET) June 1966, (TOP SECRET)
11. CIA. PIR-67312, Naval Base and Shipyard 402 Severodvinsk, USSR Mission (TOP SECRET) July 1966, (TOP SECRET)
12. CIA. PIR-67313, Naval Base and Shipyard 402 Severodvinsk, USSR Mission (TOP SECRET) July 1966, (TOP SECRET)
13. CIA. PIR-67314, Naval Base and Shipyard 402 Severodvinsk, USSR Mission (TOP SECRET) July 1966, (TOP SECRET)
14. CIA. PIR-77108, "R" Class SSBN Activity, Yegry Island Nuclear Support Facility February 1967, (TOP SECRET)
15. CIA. PIR-77110, Naval Base and Shipyard 402, Severodvinsk, USSR Mission (TOP SECRET) March 1967, (TOP SECRET)

REQUIREMENT NO.

C-SI6-84,119

PROJECT NO.

30519-7

TOP SECRET

25X1

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

~~TOP SECRET~~



25X1

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010041-2

~~TOP SECRET~~

